STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III
ID# 2622

General Electric Glass Plant

Bridgeville, PA

(Signed September 30, 1992)

Facility/Unit Type: Industrial landfill
Contaminants: Lead, cadmium, inorganic constituents
Media: Soil, ground water, surface water, sediments
Remedy: Institutional controls, security fence, concrete/asphalt cap, sheet pile wall, and recovery trench

FACILITY DESCRIPTION

In October 1990, EPA issued a Corrective Action Permit to General Electric (GE) pursuant to Section 3004(u) of RCRA. The permit required GE to complete an on-site and off-site investigation to determine the nature and extent of contamination from a Solid Waste Management Unit (SWMU) located within the GE Bridgeville Glass Plant, and to conduct a CMS to evaluate cleanup alternatives.

The plant covers approximately 10 acres and is bordered on the north and south by railroad companies. GE manufactures leaded glass tubing used in the manufacture of light bulbs. The SWMU addressed in the permit is a 3.6 acre landfill which was used between 1919 and 1979 to dispose of waste associated with the glass tubing manufacturing operations, including: lead oxide, bag house dust, furnace refracturing bricks, cinders, ash from a coal fire boiler, and other debris. The western side of the landfill is bordered by Chartiers Creek and the plant is to the east.

The landfill contains two water-bearing units within the surficial aquifer at the site. The first unit is mounded above the alluvium due to a retarding interface between the landfill and the alluvium. The second unit is beneath the landfill and consists of a fine-grained alluvium followed by a soil stratum interpreted to be residual soil. The second unit acts as a single hydrogeologic unit. Inorganic constituents were detected in both of the water bearing units in excess of EPA's Maximum Contaminant Levels (MCLs) for primary drinking water. Both water bearing units are supected to discharge into Chartiers Creek.

GE conducted a voluntary environmental assessment form 1985 to 1988. The assessment involved establishing a number of monitoring wells around the site, sampling the creek water, and sampling stream sediment. GE also conducted a CMS to identify alternative corrective measures for the landfill and to fill gaps from the earlier studies. Analysis of the landfill materials using the TCLP revealed lead and cadmium contamination. Sediment samples form Chartiers Creek had elevated lead levels.

EXPOSURE PATHWAYS

Actual or threatened releases of hazardous constituents from the facility, if not addressed, may present a current or potential threat to human health and the environment. The exposure pathways from the landfill include human consumption of fish from Chartiers Creek, direct human contact with the fill materials during construction and/ or utility maintenance activities, surface erosion of the fill area entering Chartiers Creek impacting fish and aquatic life, and ground water discharges into Chartiers Creek impacting fish and aquatic life.

SELECTED REMEDY

A security fence has been placed around the site to prohibit unauthorized access. A concrete/ asphalt cap will be placed over the unit to provide

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration	Action Level	Cleanup Goal**	Point of Compliance
ground water	not given	Lead	10 ppm	0.05 ppm	0.05 ppm	Within facility bounderies
		Cadmium	ppm	0.005 ppm	0.005 ppm	
		Arsenic	... ppm	0.05 ppm	0.05 ppm	
		Barium	3.6 ppm	1.0 ppm	1.0 ppm	
		Chromium	.45 ppm	0.05 ppm	0.05 ppm	
		Selenium	.013 ppm	0.05 ppm	0.05 ppm	
		Silver	.05 ppm	0.05 ppm	0.05 ppm	
		Thallium	.80 ppm	0.001 ppm	0.001 ppm	
sediment(3)	N/A	N/A				
soil (1)	53,000 cubic yards	Lead	850 mg/l (2)	5.0 mg/l	N/A	
		Cadmium	2.4 mg/l (2)	1.0 mg/l	N/A	
sediments	not given	Lead	not given	not given	not given	
		Cadmium	"	"	"	

(1) Fill Area
(2) Based on TCLP results of fill area
(3) The facility will conduct investigations to determine whether surface water has been impacted by the fill area.
** Cleanup goals is the Maximum Contaminant Level (MCL) or background.

surface containment. A sheet pile wall will be placed between Chartiers Creek and the landfill to stop erosion of the landfill material into the creek. A recovery trench will be placed between the landfill and creek to collect ground water coming from the landfill. Monitoring of ground water, creek water, and creek sediment will be conducted extensively to detect any potential migration of hazardous constituents.

The corrective measures should control further release of any hazardous waste and hazardous constituents from the landfill which exceed current MCLs and should achieve long-term protection of the community and environment.

The capital and O&M costs for this remedy are $1,130,000 and $77,000 per year, respectively.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

On August 6, 1992, a forty-five (45) day public comment period was announced in a local newspaper. A public hearing was held on September 19, 1992. A number of comments were submitted by General Electric, the Pennsylvania Department of Environmental Resources (PADER), the Allegheny County Health Department, and concerned citizens. The comments addressed the proposed remedies, the proposed ground water and creek monitoring requirements, the proposed remedy schedule, the public notice that took place, and other issues. GE and PADER also commented on specific permit language and provisions. EPA responded to all relevant

KEY WORDS
ground water, soil, surface water, soil; ingestion, dermal contact; lead, inorganics; capping containment, institutional controls, monitoring

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comments and amended some parts of the permit. It was also noted that the landfill is a corrective action SWMU and not a RCRA regulated unit and is thus not subject to 40 CFR Part 264 requirements.

NEXT STEPS

Continued monitoring of ground water, surface water, and sediments will be used to assess the effectiveness of the remedy.